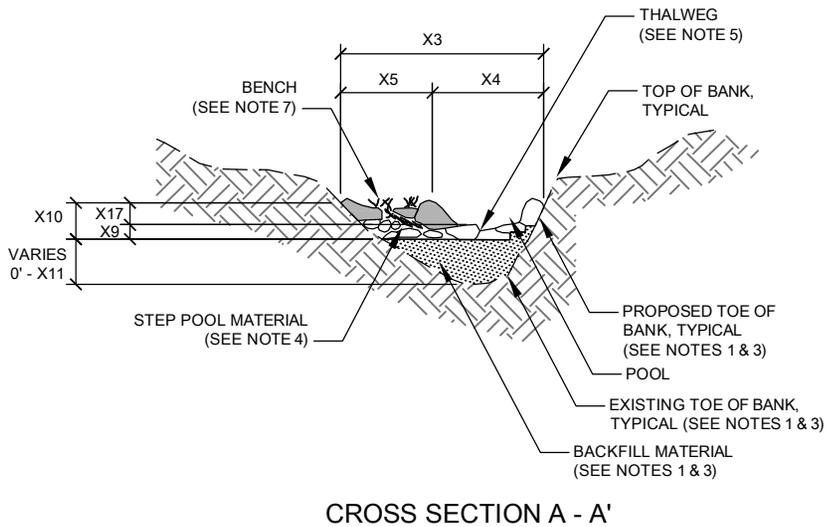


PHOTO: STEP- POOL STRUCTURE



THIS FIGURE IS ONLY MEANT TO DEFINE THE MINIMUM INFORMATION REQUIRED BY THE CITY OF CHARLOTTE TO BE INCLUDED IN A DETAIL FOR THIS TYPE OF TECHNIQUE. THIS FIGURE IS NOT MEANT TO REPRESENT A STANDARD DESIGN METHOD FOR THIS TYPE OF TECHNIQUE AND SHALL NOT BE USED AS SUCH.

NOT TO SCALE

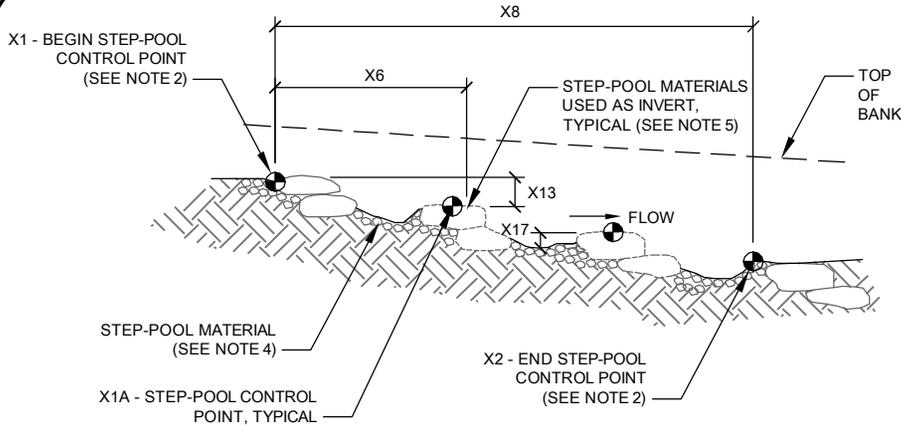


CHARLOTTE-MECKLENBURG
 STORM WATER SERVICES
 GENERIC DETAIL REQUIREMENTS

STEP-POOL STRUCTURE

DRAFT - NOT TO BE USED FOR CONSTRUCTION

SHEET NUMBER	
1 OF 2	
REV. DATE	REV. #



PROFILE B - B'

NOTES:

- STEP POOL STRUCTURES SHALL BE INSTALLED IN NEWLY GRADED CHANNEL SECTIONS AND/OR IN EXISTING CHANNEL SECTIONS, AS SPECIFIED BY THE DESIGNER. THEY ARE GENERALLY USED IN STEEP, CONFINED LOCATIONS, SUCH AS A TRANSITION FROM ONE STREAM TYPE TO ANOTHER.
- ELEVATION CONTROL POINTS SHALL BE DESIGNATED AT THE BEGINNING AND END OF STEP-POOL STRUCTURES AND AT EACH STEP-POOL INVERT BOULDER TO ESTABLISH PART OF THE PROFILE OF THE CHANNEL. SURVEY OF CONTROL POINTS SHALL BE REQUIRED TO ESTABLISH ACCURATE STEP-POOL INSTALLATION WITHIN THE TOLERANCE SPECIFIED BY THE DESIGNER.
- BACKFILL MATERIAL, IF NEEDED TO ESTABLISH A STEP-POOL SUBPAVEMENT AND/OR TO RAISE THE CHANNEL BED DUE TO SCOUR/INCISION, SHALL BE OF A TYPE, SIZE, AND GRADATION AS SPECIFIED BY THE DESIGNER. BACKFILL SHALL BE PLACED SUCH THAT THE ADDITION OF THE SPECIFIED THICKNESS OF STEP-POOL MATERIAL SHALL ACHIEVE THE DESIGNATED GRADES.
- STEP-POOL MATERIAL SHALL BE OF A TYPE, SIZE, AND GRADATION AS SPECIFIED BY THE DESIGNER TO BE MOBILE OR NON-MOBILE AS THE CONDITIONS IN THE CHANNEL WARRANT (I.E. - CLEAN-WATER DISCHARGE ENVIRONMENT, HIGH BEDLOAD SYSTEM, ETC.) STEP-POOL MATERIAL MAY BE EXCAVATED, STOCKPILED, AND RE-USED FROM ABANDONED CHANNEL SECTIONS. OTHERWISE STEP-POOL MATERIAL SHALL BE SLIGHTLY ROUNDED, "RIVER-TYPE" ROCK, UNLESS OTHER ROCK CHARACTERISTICS ARE APPROPRIATE FOR THE CHANNEL. LOGS AND OTHER WOODY DEBRIS MAY BE INCORPORATED INTO THE STEP-POOL MATERIALS.
- STEP-POOL INVERTS SHALL CONSIST OF BOULDERS OF A SIZE SPECIFIED BY THE DESIGNER. INVERTS SHALL BE SET AT A DROP/RISE FROM THE ADJACENT UPSTREAM/DOWNSTREAM INVERT TO ACCOMMODATE THE PASSAGE OF FISH. THE INVERTS SHALL FORM THE THALWEG OF THE STEP POOL STRUCTURE. POOLS SHALL BE FORMED BETWEEN THE INVERTS TO THE DIMENSIONS SPECIFIED BY THE DESIGNER.
- THE BENCH OF THE STEP-POOL STRUCTURE SHALL BE FORMED BESIDE THE POOL AT THE DIMENSIONS SPECIFIED BY THE DESIGNER. THE BENCH SHALL BE FORMED OF STEP-POOL MATERIALS PLACED TO A DEPTH SUCH THAT THEIR SURFACE MATCHES THE STEP-POOL INVERT IMMEDIATELY UPSTREAM.

DIMENSIONS (VALUES TO BE PROVIDED BY DESIGNER)

VARIABLE	VALUES	TYPICAL UNIT	DESCRIPTION
X1		FT. (NAVD)	BEGIN STEP-POOL CONTROL POINT ELEVATION
X1A		FT. (NAVD)	STEP-POOL CONTROL POINT(S)
X2		FT. (NAVD)	END STEP-POOL CONTROL POINT ELEVATION
X3		FT.	STEP-POOL WIDTH
X4		FT.	POOL WIDTH
X5		FT.	BENCH WIDTH
X6		FT.	POOL LENGTH
X7		FT.	POOL OVERLAP
X8		FT.	STEP-POOL LENGTH
X9		IN. OR FT.	STEP-POOL MATERIAL THICKNESS IN POOL
X10		IN. OR FT.	STEP-POOL MATERIAL THICKNESS IN BENCH
X11		IN. OR FT.	BACKFILL OR SUBPAVEMENT THICKNESS (DEPTH), IF SPECIFIED
X12		IN.	D50 STEP-POOL MATERIAL
X13		IN.	STEP-POOL INVERT DROP
X14		IN. OR FT.	WIDTH OF STOP-POOL MATERIAL USED AS INVERT
X15		IN. OR FT.	LENGTH OF STEP-POOL MATERIAL USED AS INVERT
X16		IN. OR FT.	THICKNESS OF STOP-POOL MATERIAL USED AS INVERT
X17		IN. OR FT.	POOL DEPTH
X18		IN. OR FT.	INVERT BOULDER LENGTH
X19		IN. OR FT.	INVERT BOULDER WIDTH
X20		IN. OR FT.	INVERT BOULDER THICKNESS

THIS FIGURE IS ONLY MEANT TO DEFINE THE MINIMUM INFORMATION REQUIRED BY THE CITY OF CHARLOTTE TO BE INCLUDED IN A DETAIL FOR THIS TYPE OF TECHNIQUE. THIS FIGURE IS NOT MEANT TO REPRESENT A STANDARD DESIGN METHOD FOR THIS TYPE OF TECHNIQUE AND SHALL NOT BE USED AS SUCH.

NOT TO SCALE



CHARLOTTE-MECKLENBURG
STORM WATER SERVICES
GENERIC DETAIL REQUIREMENTS

STEP-POOL STRUCTURE

DRAFT - NOT TO BE USED FOR CONSTRUCTION

SHEET NUMBER

2 OF 2

REV. DATE REV. #